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An Analysis of Lithic Artifacts  
From The Gila National Forest  
Near Reserve, New Mexico  
And  
An Archeological Survey  
Of The  
Reserve Land Exchanges  
Gila National Forest, New Mexico

By  
Henry G. Wylie

November 1974

# ARCHEOLOGICAL REPORT



USDA FOREST SERVICE  
SOUTHWESTERN REGION  
ALBUQUERQUE, N.M.

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FROM THE GILA NATIONAL FOREST  
NEAR RESERVE, NEW MEXICO

AND

AN ARCHEOLOGICAL SURVEY  
OF THE  
RESERVE LAND EXCHANGES  
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Southwestern Region  
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AN ANALYSIS OF LITHIC ARTIFACTS  
FROM THE GILA NATIONAL FOREST  
NEAR RESERVE, NEW MEXICO

By Henry G. Wylie

Introduction

The present report supplements the Archeological Clearance Investigation ("An Archeological Survey of the Reserve Land Exchanges, Gila National Forest, New Mexico" - Wylie 1974) and contains descriptions and analyses of artifacts collected from seven archeological sites on selected lands of the Gila National Forest near Reserve, New Mexico. The ceramic analysis of 41 sherds recovered is only partially complete; but rather than postpone the entire report, this data is included here in "bare bones" summary format (Table I). A more thorough examination of these materials is planned for a later date.

The artifacts collected from sites 53, 54, 57, 58, and 59 constitute complete surface collections of those portions of the sites within the exchange boundaries. Sites 54, 58 and 59 were bisected by this boundary and were, in fact, only partially collected.

Any discussion of the present ceramic and sherd materials must first recognize and be limited by the small sample size, varied provenience and generalized nature of these materials. In spite of these limitations the following descriptive, comparative, and functional observations can be made.

Lithic Tool Types

A total of 31 chipped and ground stone artifacts, 84 possibly retouched or utilized flakes and 559 waste flakes were recovered from the seven Reserve area sites (Table II). Morphologically, only six kinds of tools were observed, including: biface blades (13), projectile points (8), choppers (3), metates (3), manos (3), and a single bedrock mortar. Examples of these tool forms are illustrated in Figures 1 and 2. Sixty-eight (68) possible biface trimming flakes were also recovered, but these reveal no more than the fact that bifacially flaked implements were manufactured or resharpened at sites 54 and 57, a fact which is already obvious from other material evidence. The presence of these six general morphological classes of implements in the Reserve area is not particularly significant; all are common and have been previously documented for the area.

TABLE I

Summary of Ceramic Materials,  
Reserve Land Exchanges

SITE	SHERDS	COLOR			SURFACE TREATMENT		TEMPER	PAINTED	COMMENTS
		INTERIOR	EXTERIOR	CORE	INTERIOR	EXTERIOR			
53	1	Br	Rd	LGr-Tn	Sc	Sl, P	C	No	
53	1	Br	Or-Tn	Br-Or	Sm	Sl, P	F	No	
53	12	Br	LBr	Br-Gr	Sm	P	F	No	Paddle and awyl (?)
54	3	B	Br-B	DGr-LBr	Sd, Sm	P	F-M	No	Incised exterior design
54	3	LBr-DBr	LBr	Gr-LBr	Sm	Cr	C	No	
54	1	LBr	LBr	Br	Sm	Co	C	No	
54	2	LBr	Br	LBr	Sm(?)	Sm	F-M	No	
54	1	Br-Tn	Gr	Gr-Tn-Pk	Sm	Cr	F	No	
54	1	LGr	LGr	LGr	Sc	P, Sl, Pa	F-M	B/Gr	Fine hatchings, solid triangle design
58	9	B	Br	Br	Sd, P	P	F	No	
58	1	B/Or	Cr/Or	Cr	Sl, P, Pa	Sl, P, Pa	M	B/Or & Cm/Or	"Saint Johns Poly?"
58	1	Gr-DGr	B/LGr	DGr	Sc	Sl, P, Pa	C	B/Gr	"Chupadero"?
58	3	Tn-Gr	Wh	LGr	Sm, Sc	P	F-C	B/W	
59	1	Cr-Wh	Cr-Wh	LGr-DGr	Sl, P	Sl, P	C	B/W	Black thin line design
59	1	LBr	Br	DGr	Sm(?)	P	C	No	Paddle and awyl (?)

KEYColors

Br - brown  
 LBr - light brown  
 DBr - dark brown  
 Rd - red  
 Gr - gray  
 LGr - light gray  
 DGr - dark gray  
 Or - orange  
 Cm - cream  
 B - black  
 Pk - pink  
 Wh - white  
 Tn - tan

Surface Treatments

Sc - scraped  
 Sl - slipped  
 P - polished  
 Sm - smoothed  
 Cr - corrugated  
 Co - coiled  
 Pa - painted  
 Sd - smudged

Temper

F - fine  
 M - medium  
 C - coarse

Site #	Chipped Stone Tool Materials					Unutilized Debitage	Retouched or Utilized Flakes	Biface Blade Trimming Debris	Biface Blades	Projectile Points	Choppers	Metates	Manos	Mortars (bedrock)	Basalt	Obsidian	Chert	Chalcedony	Other
53	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
54	204	46	37	3	5	-	-	-	-	-	-	-	2	1	253	11	14	9	10
57	305	36	31	8	-	-	-	-	-	-	-	-	-	-	373	2	2	1	4
58	15	2	-	1	-	-	-	-	-	-	-	-	-	-	14	-	-	2	2
59	33	-	-	-	-	-	-	-	-	-	3	3	1	-	8	1	16	1	10
62	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-
202	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-

Table II. Summary of Lithic Materials, Reserve Land Exchanges, New Mexico.



## Basalt Preference

There is an obvious dependence (88%) on basalt-like stone for the production of all chipped stone tool classes. Here the term "basalt" will include any dark colored, fine-grained igneous rock, including "diabase" and "rhyolite" as used by others to describe artifact materials of this area. Site 59 is a minor but interesting exception to this basalt-dominant pattern. Here, for some unknown reason, it is reversed in favor of chert-like, cryptocrystalline materials (44% vs. 22%).

The extent of this preference for basalt-like tool materials appears to be unprecedented for the Reserve area. Only at Tularosa Cave (Martin et. al. 1952) and Turkey Foot Ridge (Martin and Rinaldo 1950a) is there a similar lithic selection. But in both cases there are some individual tool classes such as "flake knives" or "drills" which are predominantly chert. Nor are there any tool types made exclusively of basalt; all have significant quantities of chert or obsidian materials.

Other sites in the Reserve area, including Wet Leggett, South Leggett and Three Pines (Martin and Rinaldo 1950b); Higgins Flat (Martin et. al. 1956); the SU Site (Martin, various); the Sawmill Site (Bluhm 1957); and four other sites reported by Martin and others (1957) show only light to moderate (never heavy) utilization of basalt. Such implements as "flake scrapers" and "choppers" at the above sites were commonly of basalt, but the remaining majority of the chipped stone tool assemblages were typically manufactured of chert and/or obsidian, with only minor use of basalt.

This unusual pattern of lithic preference may be an aboriginal selection for durable stone, perhaps in response to particularly abrasive and heavy-duty functional tasks. But other possible "explanations" might include: 1) unknown cultural or temporal factors, 2) an abundance of easily obtained basalt at these locations, or 3) the lack of alternative lithic material sources.

## Lithic Artifact Descriptions

### Projectile Points

Number of specimens: 7 (one essentially complete, one tip, and five basal fragments)

Sites: 54(5); 62(1); 202(1)

Description: Bifacially percussion flaked with side or corner notches (4), or stemmed (2) with straight, notched (concave) or convex bases.



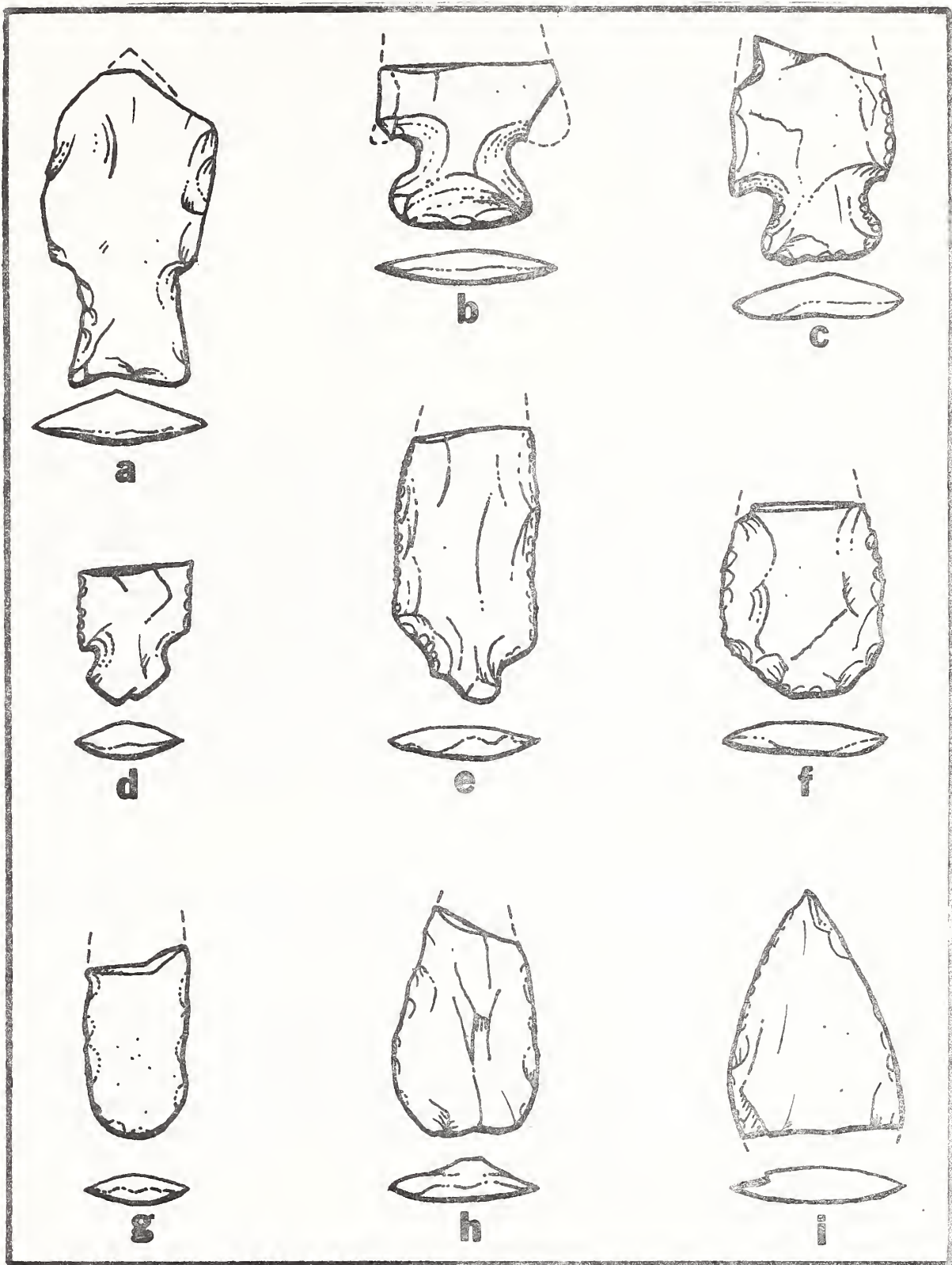


Fig. 1. Projectile points and biface blades from the Reserve Land Exchanges. a, site 62; b, site 202; c-g, site 54; h, site 58; i, site 57. Specimen "d" is chert; the rest are basalt. All specimens actual size.

Material: Basalt (5); Chert (1), Chalcedony (1).

Dimensions (in millimeters):

<u>Site &amp; Specimen</u>	<u>Length</u>		<u>Width</u>	<u>Thickness</u>
	<u>actual</u>	<u>estimated</u>		
54 (Fig. 2e)	46	55-65	25	5
54 (Fig. 2c)	40	50-60	29	6
54 (Fig. 2d)	25	35-40	19	6
54 basal fragment	-	-	-	9
54 tip fragment	-	-	-	4
62 (Fig. 2a)	55	57-60	29	8
202 (Fig. 2b)	28	50-60	30	8
Average values=	38.8	49-57	26.4	6.6

Comments: With the exception of one chert specimen, these projectile points are robust; there are no very small, finely made points of chert or obsidian so characteristic of other sites in this area. Although specific comparisons are not feasible, there are overall similarities between these and the illustrated examples from the "pre-pottery" levels of Tularosa Cave (Martin *et. al.* 1952:158, Fig. 46). Both samples are dominated by large, crudely shaped, notched and stemmed forms, although in general the Tularosa specimens appear to be slightly smaller in size. There is also considerable similarity with some of the larger stemmed and notched point specimens from the Mineral Creek and Hooper Ranch Pueblo sites in east-central Arizona (Martin, *et. al.* 1961). Likewise, individual points from Wet Leggett Pueblo (Martin and Rinaldo 1950b:483, Fig. 53g) exhibit some resemblance to the present materials.

Biface Blades

Number of specimens: 12 (two whole, three tips, five bases, and two mid-sections)

Sites: 54(3), 57(8), 58(1)

Description: Bifacially percussion flaked with little or no secondary edge retouch, resulting in blade margins which are usually irregular and convex and bases almost flat to concave. The tips are pointed and widths are approximately half the size of the length.

Material: Basalt (11), Chert (1)

Dimensions (in millimeters):

<u>Site &amp; Specimen</u>	<u>Length</u>		<u>Width</u>	<u>Thickness</u>
	<u>actual</u>	<u>estimated</u>		
54 (Fig. 2f)	32	40-45	27	4
54 (Fig. 2g)	33	45-65	17	5
54	45	-	26	7
57 (Fig. 2i)	40	?	28	6
57	38	45-55	29	9
57	40	-	30	7
57	-	-	-	6
57	-	-	-	3
57	-	-	-	4
57	-	-	-	5
57 minor fragment	-	-	-	-
Average values=	38	43-50	26.2	5.6

Comments: Similar bifacial blade implements are found throughout the Reserve area, having been reported from the Higgins Flat Pueblo (Martin et. al. 1956:48, type "M"), the Sawmill Site (Blum 1957:48, Fig. 15), and the SU Site (Martin et. al. 1940:65, Fig. 29). Interestingly, the utilization of basalt for the production of biface blades at these sites is varied ranging from 100% to mixed to 0% respectively.

Choppers

Number of specimens: 3

Sites: 59(3)

Description: These presumed chopping tools are large, angular core implements, varying in size and shape. They are characterized by heavy percussion flaking and irregular cutting edges.

Material: Basalt (1), Chert (1), Other (1).

Dimensions (in millimeters):

<u>Site &amp; Specimen</u>	<u>Length</u>	<u>Width</u>	<u>Thickness</u>
59 (Fig. 1c)	110	90	50
59	77	70	65
59	75	50	40
Average values=	87.3	70	51.7



Comments: Stylistically these are unpatterned and nondiagnostic but do share overall similarities with other chopper-core tools reported from the Reserve area. On the basis of microscopic examination of use-wear (discussed below), it is suspected that most of these "chopper-style" implements, including two of the present sample, are actually spent cores and not percussion implements at all.

### Biface Trimming Debris

Number of specimens: 68

Sites: 54(37), 57(31)

Description: This category represents those flakes which have resulted from the shaping or resharpening of bifacial tool edges, either biface blades or projectile points. They are small, generally less than thumbnail size, and sometimes retain a portion of the original tool edge on their striking platform.

Materials: Basalt (68)

Comments: This type of artifact detritus is not terribly significant since it usually tells us no more than we already know; i.e. that percussion flaked bifacial tools were manufactured and/or modified at sites 54 and 57. It is interesting to note, however, that all of the biface trimming debris and 84% of the biface blades and projectile points came from the same two sites (54 and 57).

### Ground Stone Artifacts

A total of seven (7) ground stone tools, including three manos, three metates and a single bedrock mortar were discovered. Without exception these kinds of artifacts are previously documented and quite common to the Reserve area.

The manos are only slightly to moderately shaped by grinding and pecking and exhibit squarish outlines with rounded corners, rectangular to oval cross sections and a single grinding facet (Fig. 2a and 2b).

All three metates from the site are simple slabs with little or no edge modification and a centrally located, oval grinding surface. Each is 12 to 18 inches long, oblong, and 3 to 4 inches thick. These specimens were all photographed and left in the field.

The single bedrock mortar measuring  $4\frac{1}{2}$  inches deep and  $4\frac{1}{2}$  inches in diameter was discovered on a large boulder at site 54. This differs from most mortars in this area which were constructed on smaller, easily transported stone slabs or cobbles.

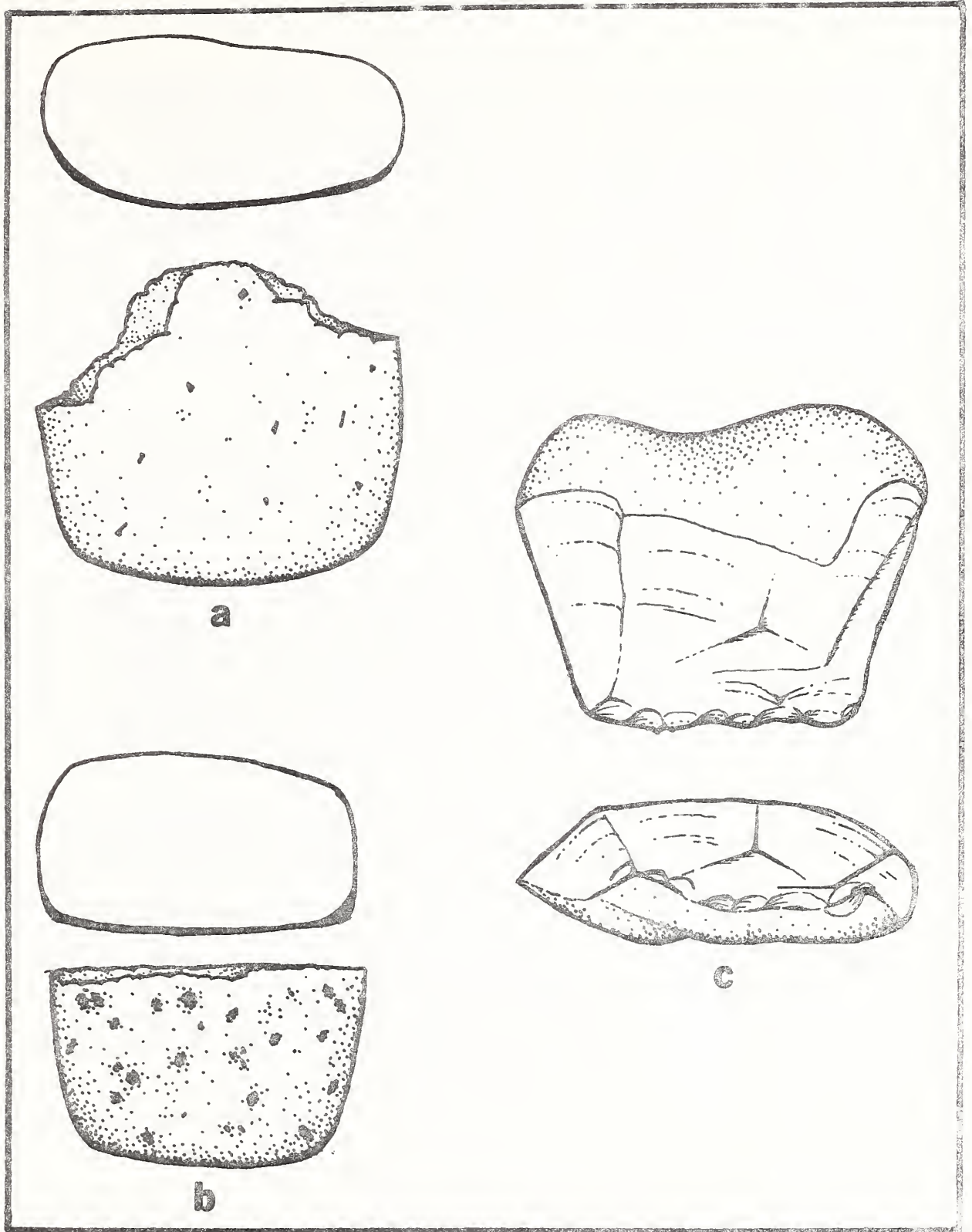


Fig. 2. Manos and chopper tool from the Reserve Land Exchanges.  
 a, tuff mano from site 54 (110 x 115 x 60 mm); b, vesicular basalt mano  
 from site 54 (98 x 76 x 54 mm); c, quartzite(?) chopper from site 59  
 (110 x 90 x 50 mm).

### Lithic Edge-Wear Analysis

Microscopic examination of the chipped stone tools and "debitage" from sites 54, 57, 58 and 59, utilizing techniques which are described in detail elsewhere (Semenov 1964), revealed six kinds of use-wear, including: 1) abrasion, 2) polish, 3) striations, 4) step-fractured flake scars, 5) concoidal flake scars, and 6) general battering. Examples of some of these are illustrated in Figures 3-7. Following criteria used by Wylie (1973, 1975) for Great Basin and Southwestern materials, various combinations of these use-wear features were interpreted as follows: Sawing of wood or bone (1, 2, 5); Hard Scraping of wood or bone (4); Hide Scraping (1, 2, 3); and Chopping (6). One possible engraving tool was also identified, but this interpretation is tenuous. A summary of the lithic edge-wear data is presented in Table III.

Considering the quantity of specimens examined ( $n=733$ ), the number of use-worn tools ( $n=30$ ) is small. This is largely due to the coarse-grained and durable nature of basalt tools and the fact that only the most severe and obvious forms of use-wear are visible. Tool functions at these sites were probably far more numerous and varied than the present use-wear data suggest.

Of the total of 30 identified tool functions, 50% (15) were sawing, 23% (7) hard scraping, 20% (6) hide scraping, 3% (1) chopping, and 3% (1) were possibly engraving. Most (83%) of these functions were accomplished with basalt tools. In minor quantities, chert and chalcedony materials were used for sawing, and obsidian was used for hard scraping tasks. Although the sample is small and dominated by a single lithic type, this pattern of lithic selection is not unusual nor at odds with similar data elsewhere (cf. Wylie 1973).

A much clearer pattern is discernable when considering edge angle size and function; it is clear that tool edge angles vary with the tasks to be performed. For example, sawing functions required the most acute edges ( $x=36^{\circ}$ ), followed by hard scraping ( $x=60^{\circ}$ ), hide scraping ( $x=62^{\circ}$ ), and chopping ( $x=85^{\circ}$ ). The limited sample requires caution, in evaluating the meaning of this data, but some tentative comparative and interpretative statements may be possible. Sawing required the sharpest, most acute cutting edge, whereas the more forceful tasks, requiring strength rather than cutting ability, necessitated a more obtuse, stronger edge. As seen below, a similar pattern, though of a slightly different magnitude, is reported from Hogup Cave, Utah (Wylie, 1973).



FUNCTION	% OF TOTAL FUNCTIONS	LITHIC PREFERENCE					TOOL EDGE MORPHOLOGY			EDGE ANGLE			SITES			
		BASALT	CHERT	OBSIDIAN	CHALCEDONY	OTHER	UNMODIFIED	UNIFACIALLY MODIFIED	BIFACIALLY MODIFIED	# EDGES MEASUREABLE	MEAN ANGLE	RANGE	54	57	58	59
Sawing (n=15)	50%	13	1	-	1	-	14	-	3*	15	36°	15°-50°	6	6	1	2
Hard Scraping (n=7)	23%	5	-	2	-	-	6	1	-	5	60°	40°-70°	6	1	-	-
Hide Scraping (n=6)	20%	6	-	-	-	-	3	3	-	3	62°	50°-80°	2	2	2	-
Chopping (n=1)	3%	-	-	-	-	1	-	1	-	1	85°	85°	-	-	-	1
Graver (?) (n=1)	3%	1	-	-	-	-	1	-	-	1	90°	90°	-	1	-	-
TOTALS	99%	25	1	2	1	1	24	5	3	25	-	-	14	10	3	3

\* Two on projectile points

Bi-face Trimming Flakes (n=8)	8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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Table III. Lithic Edge Wear Summary, Reserve Land Exchanges, New Mexico.

## Mean Edge Angle and Function

### Hogup Cave, Utah

48°	Sawing
75°	Hard Scraping
68°	Hide Scraping
73°	Percussion/Chopping

### Reserve Area, New Mexico

36°
60°
62°
85°

From the above it is readily noted that the Reserve edge angles are consistently less (more acute) by 6°-15° but generally conform to the overall pattern expressed by the more extensive Hogup data. This difference is probably due to the high occurrence (80%) of unmodified, naturally acute tool edges in the present sample. The greater edge strength of basalt implements may also have permitted narrower use edge angles in the Reserve area (basalt tools were an insignificant part of the Hogup Cave sample).

A selective comparison of the frequency of each function also shows some interesting similarities between these two samples.

### % of Total Functions

#### Hogup Cave, Utah

50%	Sawing
5%	Hard Scraping
20%	Hide Scraping
4%	Percussion/Chopping

#### Reserve Area, New Mexico

50%
23%
20%
3%

The most interesting thing here is that both samples are dominated to the same degree (70%) by sawing and hide scraping functions. The reason for the difference in relative occurrence of hard scraping functions is not known.

### Biface Trimming Flakes

Eight (8) biface trimming flakes with ground-prepared platform edges were recovered from sites 54 and 57. The heavy grinding of the striking platforms is not use-derived but rather the product of manufacture. This heavy abrasion of bifacial tool edges by aboriginal craftsmen apparently served to strengthen the margin against shattering and provided a secure seating or striking platform for detachment of trimming or shaping flakes (Sheets 1973). After detachment, each flake retained a section of this prepared edge at its striking platform (Fig. 3).



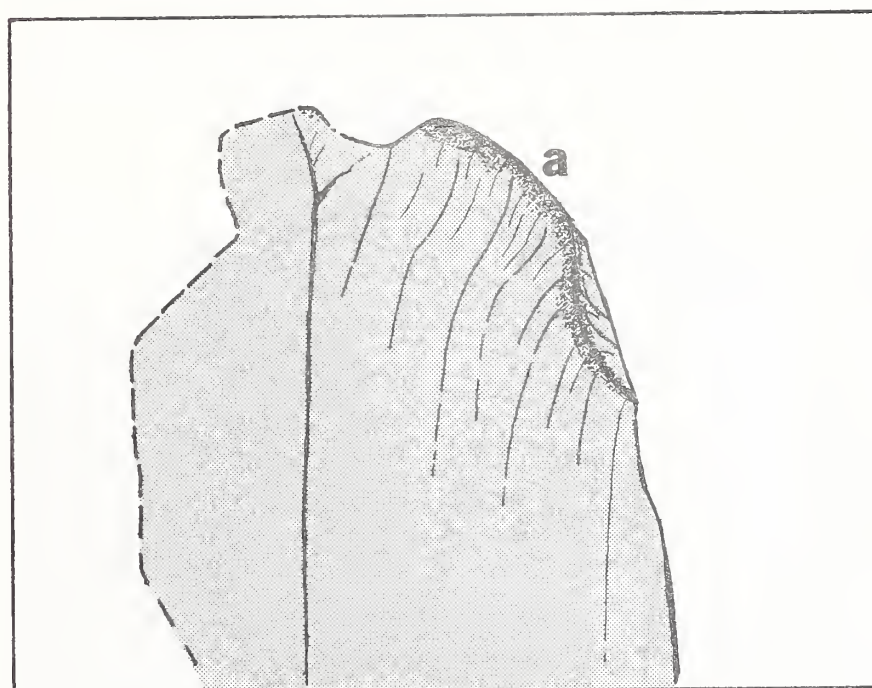
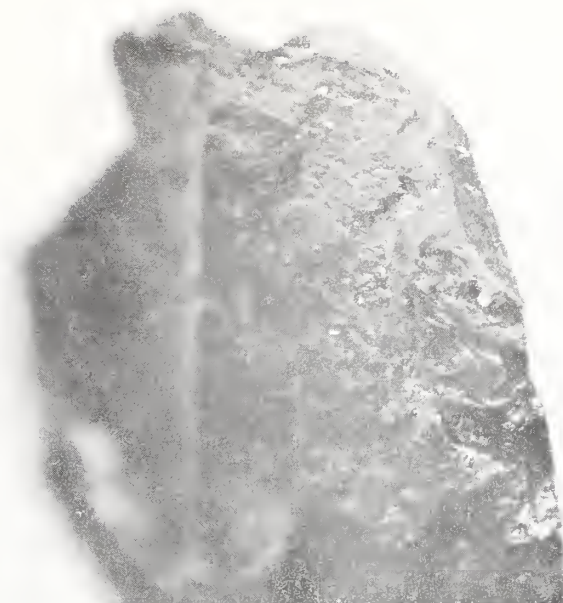


Fig. 3. Biface trimming flake with prepared edge.  
a, intentional edge grinding. Field of view, 20 mm.

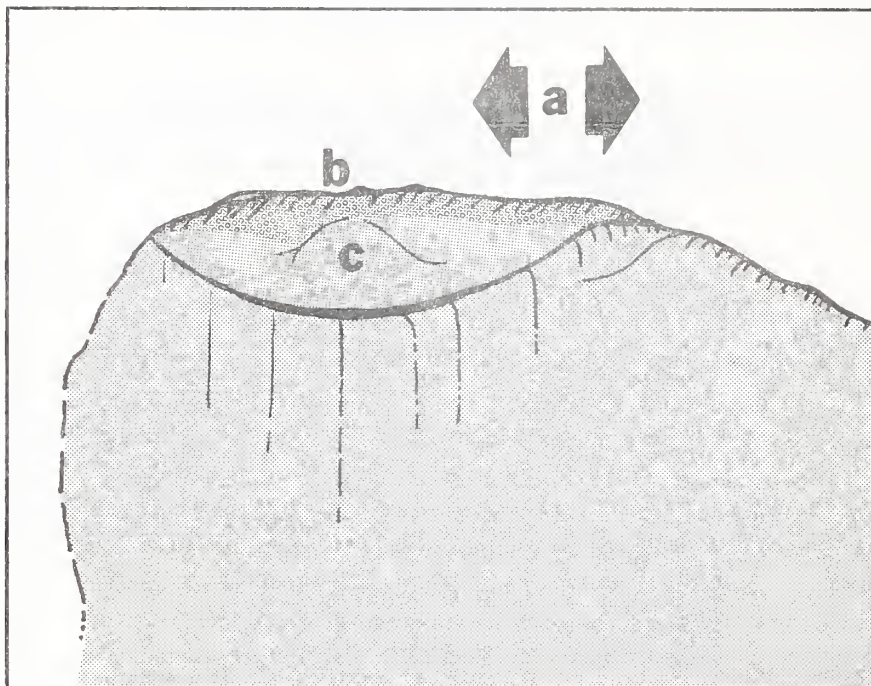
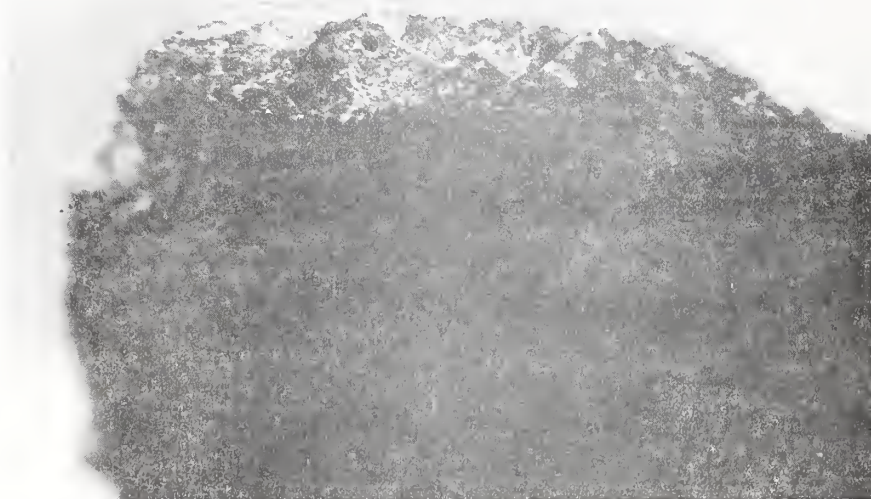


Fig. 4. Biface-saw resharpening flake. a, direction of tool travel; b, sawing edge polish and abrasion use-wear; c, striking platform. Field of view, 10 mm.

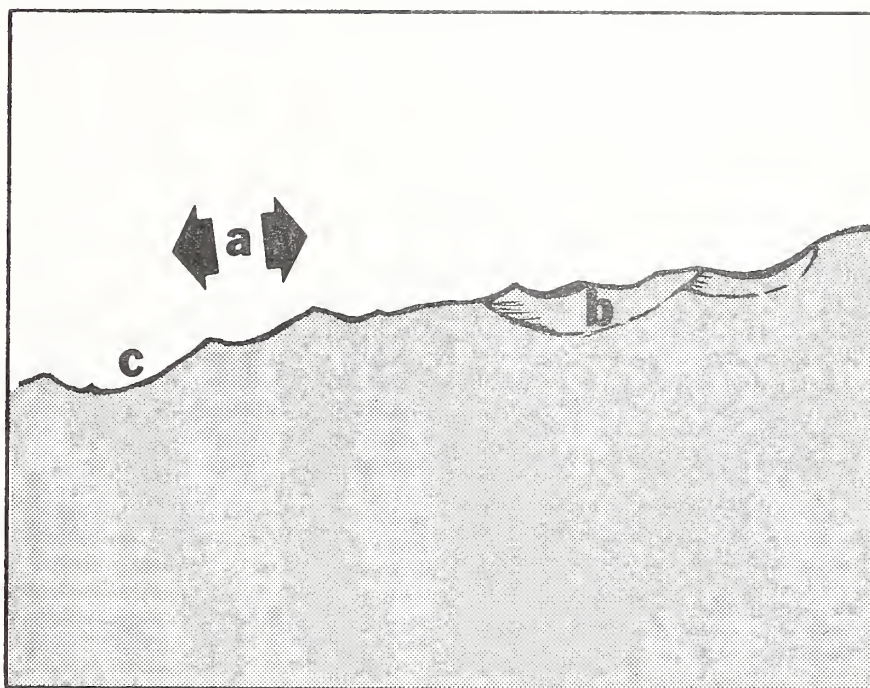


Fig. 5. Unmodified flake-saw. a, direction of tool travel; b, concoidal flake scar use-wear; c, scallop-snapped edge use-wear. Field of view, 8 mm.



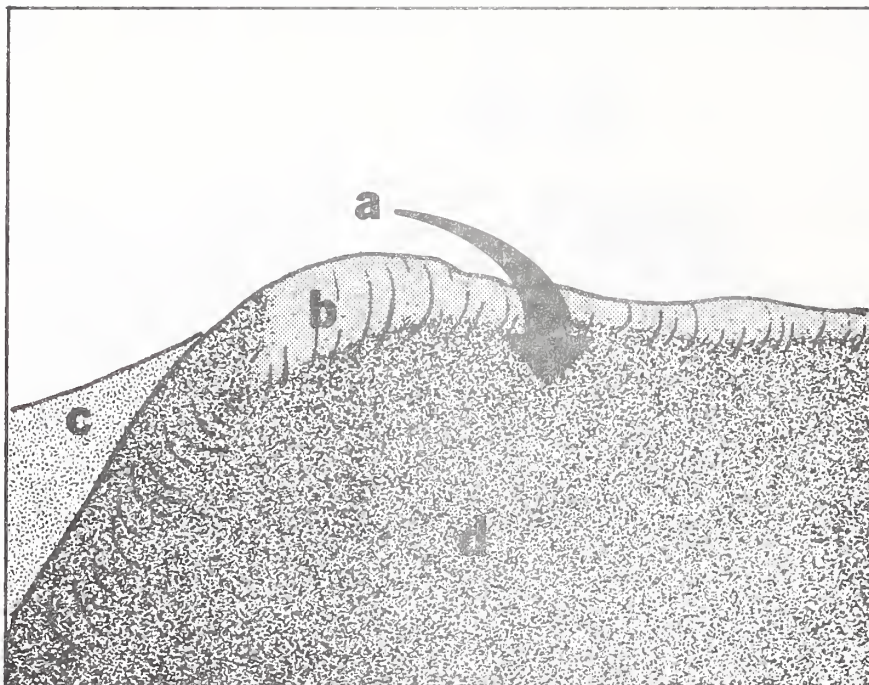


Fig. 6. Unmodified flake hide-scraper. a, direction of tool travel; b, abrasion, polish and faint edge-perpendicular striation use-wear; c, dorsal tool surface; d, ventral tool surface. Field of view, 10 mm.

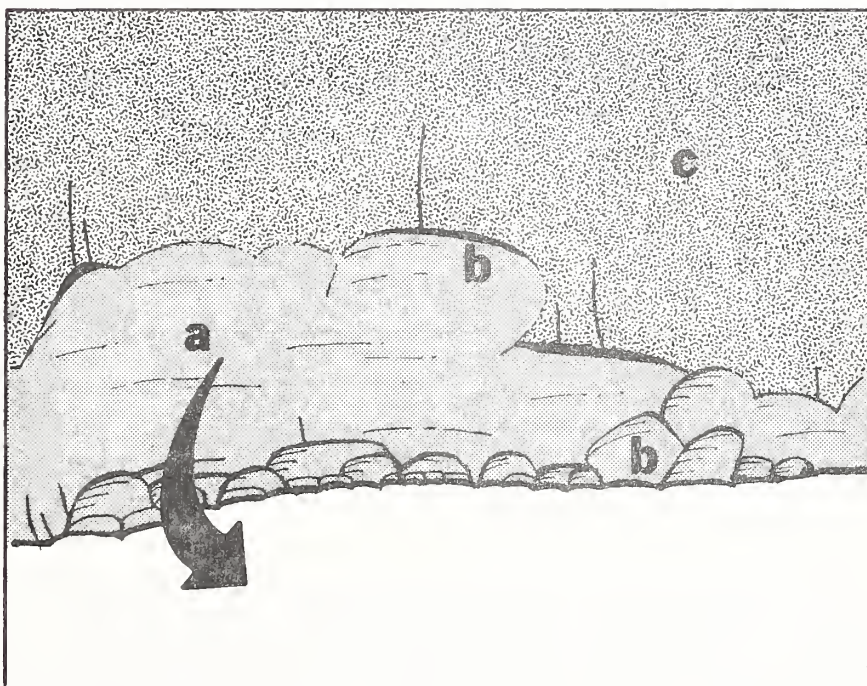


Fig. 7. Unmodified flake hard-scraper. a, direction of tool travel; b, step-fractured flake scar use-wear; c, dorsal tool surface. Field of view, 10 mm.



### Concluding Summary

Results of the artifact analysis are limited but useful. Examination of the Reserve chipped and ground stone tool and flake categories has unveiled no major secrets of the past, but it has presented a few interesting facts and shown some similarities and differences with other materials. Because the present materials are from seven small, randomly selected sites and do not necessarily share similar cultural affiliations, ages or technologies, these data may be viewed two ways:

1. The sample lacks important temporal, cultural controls and, therefore, has no significance, or
2. The sample is representative of certain kinds of specialized technological activities seldom recognized in conventional studies and may, therefore, be useful in illuminating these special aspects of prehistoric human behavior in the Reserve area.

We will assume the latter to be more correct and offer the following points for consideration.

1. Overall, the tool forms recovered are neither unusual nor special, and all are previously documented for the Reserve area. These include biface blades, large stemmed and notched projectile points, choppers, simple slab metates and cobble manos, and a bedrock mortar. The only common element which is missing are the small, finely made "bird point" projectile points, but this absence is not unusual.
2. The heavy dependence on basalt for tool material is unusual, both in its degree (88%) and extent (all tool forms). This pattern holds true for all sites except site 59, where the proportion of chert is greater than basalt (44% vs. 22%).
3. Microscopic use-wear is present and can be readily identified on chipped stone implements from the Reserve area. Thirty (30) tool functions were identified, including: sawing (15), hard scraping (7), hide scraping (6), chopping (1), and possibly engraving (1).
4. The Reserve sample shows fewer and less varied tool use-wear than materials from Hogup Cave, Utah. Twenty-nine percent (29%) of the Hogup sample exhibited nine different varieties of use-wear, whereas only 4% of the Reserve sample showed a total of four kinds of use-wear. This difference may be due to the preponderance of basalt materials which do not usually register the complete range of tool use-wear.

Consequently, tool function in the Reserve area was probably far more numerous and varied than the present data suggests.

5. The functional significance of presumed "waste" flake materials is demonstrated. Fifty-five percent (55%) of all use-worn specimens from sites 54 and 57 were from the "waste flake" category. However, only  $2\frac{1}{2}\%$ -4% of the unmodified and presumed "waste" flakes were actually use-worn implements as compared with Hogup Cave where this same category contained an estimated 18% of all use-worn tools.
6. The present data independently verify tool use observations made on similar collections elsewhere. For example, cutting tasks required sharper, more acute edge angles, and the more severe percussion, hard scraping and hide scraping actions required steeper, stronger edge angles. Also, sawing and hide scraping activities together accounted for the majority (70%) of tool functions in both the Hogup Cave and Reserve samples.
7. Eight edge-ground biface trimming flakes were recovered. These are representative of a common form of bifacial flaking preparation hitherto unknown for this area.

#### Acknowledgement

I wish to express appreciation to Dr. Daniel Jennings of the US Forest Service Rocky Mountain Forest and Range Experiment Station, Albuquerque Office, for the use of laboratory and photographic facilities.

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An Archeological Survey of the  
Reserve Land Exchanges  
Gila National Forest, New Mexico

By Henry G. Wylie

Introduction

Approximately 950-1000 acres of selected and base lands in the Reserve and Quemado Ranger Districts are being considered for exchange. This includes a total of 17 individual parcels within the following seven project areas:

- (1) Mesa base lands (1 parcel)
- (2) R. A. Atwood selection (1 parcel)
- (3) E. P. Atwood selection (1 parcel)
- (4) Robinson selections (3 parcels)
- (5) Porter selections (2 parcels)
- (6) Romero selections (4 parcels)
- (7) Aragon base lands (5 parcels)

Legal descriptions of these areas are included in Exhibit "A." Map locations are shown in Exhibit "B."

Areas 4, 5, and the southern two-thirds of 1 were surveyed by Dee Green (R. O., Albuquerque) and Joe Janes (Gila National Forest, Silver City), and reviewed by Henry Wylie (R. O., Albuquerque). The northern third of area 1 was surveyed by Wylie and Janes. Areas 2 and 3 were surveyed by Janes and reviewed by Wylie, and areas 6 and 7 were surveyed by Wylie.

These inspections were thoroughly conducted on foot to locate and identify cultural resources which might be adversely affected (lost) by the proposed exchanges.

The dominant flora is pinyon and juniper in the foothills and on mesa tops (areas 1-5), with considerable grasses in the bottom lands (areas 6 and 7). Elevations range between 5760'-6560' and the principle water courses are the San Francisco and Tularosa Rivers and their tributaries, Starkweather Canyon and Apache Creek.

### The Survey

All portions of these 17 parcels were carefully inspected on foot for evidence of artifactual surface materials and structural remains. A total of 18 prehistoric Indian sites were located in the following areas:

#### Mesa (7)

R. A. Atwood (1)

E. P. Atwood (3)

Robinson (1)

Romero (6)

No sites were discovered on the Porter selections, the Aragon base lands, or any of the two southern parcels of the Robinson and Romero selections. The locations of these sites are pin-pointed on District aerial photos and are shown in Exhibit "C," except for the one Robinson selection site ("s") which is shown in Exhibit "B" (pg. 9). Detailed site descriptions are also available at the respective District offices.

Brief descriptions of these sites are as follows:

#### Mesa base lands - Reserve Ranger District

- \* (a) AR-03-06-06-53      Sherd and flake scatter
- \* (b) AR-03-06-06-58      Sherd and flake scatter
- (c) AR-03-06-06-55      Stone pile (?)
- (d) AR-03-06-06-52      Stone pile (?)
- (e) AR-03-06-06-51      Small village, 1-3 rooms
- (f) AR-03-06-06-56      Large Village
- \* (g) AR-03-06-06-59      Large gathering station

#### R. A. Atwood selection - Reserve Ranger District

- \* (h) AR-03-06-06-54      Small camp and lithic workshop

#### E. P. Atwood selection - Reserve Ranger District

- (i) AR-03-06-06-42      Small village, 3-6 rooms
- \* (j) AR-03-06-06-57      Small lithic workshop
- (k) AR-03-06-06-43      Small village, 1-2 rooms
- ★ (l) AR-03-06-06-44      Medium village
- ★ Believed to be just outside exchange

### Romero selections - Quemado and Reserve Ranger Districts

- (m) AR-03-06-09-203 Small village, 4-6 rooms
- (n) AR-03-06-09-202 Sherd and flake scatter
- (o) AR-03-06-09-201 Small village, 4-8 rooms
- (p) AR-03-06-06-62 Surface structure
- (q) AR-03-06-06-61 Medium village, pit structures
- (r) AR-03-06-06-60 Two large pit structures

### Robinson selections - Quemado and Reserve Ranger Districts

- (s) AR-03-06-09-200 Storage granary (destroyed)

\* All surface materials from sites "a," "b," "g," "h," and "j" have been completely removed and will be described in a supplemental report. In addition, site "h" was test excavated and found to have no depth. In effect these sites no longer exist on the ground and do not represent encumbrances to these exchanges.

### Recommendations

#### Mesa Base Lands

Sites "a," "b," and "g" have been removed. This clears for exchange all areas in sections 11 and 14. Sites "d" and "c" in section 2 may, or may not be products of human behavior, but this can only be determined through archeological testing. Sites "e" and "f" are obviously villages of substantial size and complexity and can only be cleared through extensive excavation.

#### R. A. Atwood Selection

Site "h" has been tested and found to have no depth. That portion of the site within the proposed exchange has been surface collected and cleared.

#### E. P. Atwood Selection

Site "j" has been collected and completely removed. The remaining sites "i" and "k," however, both require considerable testing to determine their subsurface extent and general cultural significance. Such a program would require a minimum of 20-35 man-days total. Site "i" is too large for In-Service testing and would have to be contracted out, whereas site "k" could probably be handled In-Service. Another alternative is to exclude both sites from the exchange by a minor boundary realignment.

### Robinson Selection

Site "s" in the extreme northwest corner of section 25 is almost completely destroyed. A photographic record was made. Since no test excavation is possible and all existing data has been recovered, this site may be exchanged without loss of cultural values. No sites are present in either of the two smaller, southern parcels.

### Porter Selections

No archeological sites are present and these parcels may be exchanged without loss of cultural values.

### Romero Selections

Each of the two large parcels contain three sites. All six require testing effort beyond the present In-Service capacity. Complete excavation of all six would take several summers and involve considerable expenditure. Some vandalism is apparent and it is suggested that antiquity signs be posted in both areas, but in a manner that does not attract new attention (not visible from highway). The two small parcels in sections 21 and 22 are void of sites and require no further archeological action prior to exchange.

### Aragon Base Lands

There are no sites within any of these parcels. A few water worn sherds found in the most easterly parcel (SE corner of section 7) are not indicative of a site at this locality, but rather are stream-washed debris from a site on the opposite side of the highway. These displaced materials are without significant cultural value.

In summary, because of their size and potential significance, sites "e," "f," "m," "o," "p," "q," and "r" should be permanently excluded from exchange. Complete excavation of these sites is not feasible at this time. Clearing of sites "c," "d," "n," and "k" could be handled In-Service at a moderate, but not prohibitive, expenditure of time and money, probably less than 20 man-days. Site "i" (and perhaps "k") would best be handled by Out-Service contract or by redrawing the existing exchange boundary. Sites "a," "b," "g," "h," "j," and "s" have been cleared and may be exchanged without loss of cultural values. Site "l" presently lies outside the E. P. Atwood selected parcel and will not be affected.

### Clearance Recommendations

The most recent listings of the National Register of Historic Places have been consulted and no sites which are on the Register and no sites which are being nominated to the Register are located within the proposed exchange areas. Ten sites ("e," "f," "i," "k," "m-r") of potential

National Register character are present and should not be exchanged until further evaluation (subsurface testing) is made.

The following areas are clear of cultural values and are recommended for exchange: 1) R. A. Atwood selections, 2) Robinson selections, 3) Porter selections, and 4) Aragon base lands. Also clear for exchange is that part of the Mesa base lands south of section 2, and the two smaller Romero selections in sections 21 and 22. These projects comply with the provisions of the Historic Preservation Act of 1966 and Executive Order 11593. Archeological clearance is recommended for these areas but not for the proposed E. P. Atwood selection, the Mesa base lands within section 2, or the two larger Romero selections in sections 15 and 22.



EXHIBIT "A"

RESERVE LAND EXCHANGES LEGAL DESCRIPTIONS

Mesa Proposed Base - Lot 11,  $E\frac{1}{2}$  Lot 12,  $E\frac{1}{2}$  Lot 17 and Lot 18 of Sec. 2;  $E\frac{1}{2}$  and  $E\frac{1}{2}W\frac{1}{2}$  Lot 1,  $E\frac{1}{2}$  and  $E\frac{1}{2}W\frac{1}{2}$  Lot 3, Lot 9 and Lot 16 of Sec. 11; Lot 1 of Sec. 14 all in T. 7 S., R. 19 W.

R. A. Atwood Selection -  $NW\frac{1}{4}SE\frac{1}{4}SE\frac{1}{4}$  and the  $W\frac{1}{2}SW\frac{1}{4}SE\frac{1}{4}SE\frac{1}{4}$  of Sec. 22, T. 7 S., R. 19 W.

E. P. Atwood Selection -  $W\frac{1}{2}NW\frac{1}{4}$  Sec. 3;  $E\frac{1}{2}$  and  $E\frac{1}{2}W\frac{1}{2}$  Sec. 4 all in T. 8 S., R. 19 W.

Robinson Selections -  $N\frac{1}{2}NW\frac{1}{4}NW\frac{1}{4}$ ,  $SE\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$ ,  $E\frac{1}{2}SW\frac{1}{4}NW\frac{1}{4}NW\frac{1}{4}$ , and  $NE\frac{1}{4}SW\frac{1}{4}NW\frac{1}{4}$  of Sec. 25;  $N\frac{1}{2}SE\frac{1}{4}NW\frac{1}{4}$ ,  $SW\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$  and  $E\frac{1}{2}SE\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$ , of Sec. 25;  $N\frac{1}{2}NW\frac{1}{4}SE\frac{1}{4}$  of Sec. 25;  $E\frac{1}{2}NE\frac{1}{4}NE\frac{1}{4}SW\frac{1}{4}$  of Sec. 25; all in T. 4 S., R. 18 W., (the above all lie below the rim in Sec. 25, T. 4 S., R. 18 W.)

That portion of the  $E\frac{1}{2}SE\frac{1}{4}SE\frac{1}{4}$  Sec. 17, T. 5 S., R. 17 W., that lies west of New Mexico 32 right-of-way.

Those portions of the  $N\frac{1}{2}NE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$  and the  $SE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$  of Sec. 20, T. 5 S., R. 17 W., that lie west of New Mexico 32 right-of-way.

$SW\frac{1}{4}SW\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$ ,  $NW\frac{1}{4}SE\frac{1}{4}NE\frac{1}{4}$  and  $W\frac{1}{2}SE\frac{1}{4}SE\frac{1}{4}NE\frac{1}{4}$  of Sec. 20, T. 5 S., R. 17 W.

That portion of the  $NW\frac{1}{4}NW\frac{1}{4}$  Sec. 21, T. 5 S., R. 17 W., that lies west of New Mexico 32 right-of-way.

Porter Selections - That portion of the  $E\frac{1}{2}NE\frac{1}{4}$  Sec. 17, T. 5 S., R. 17 W., that lies west of New Mexico 32 right-of-way.

$NE\frac{1}{4}NW\frac{1}{4}SE\frac{1}{4}$ ,  $E\frac{1}{2}E\frac{1}{2}NW\frac{1}{4}NW\frac{1}{4}SE\frac{1}{4}$ ,  $S\frac{1}{2}NW\frac{1}{4}SE\frac{1}{4}$  Sec. 28, T. 5 S., R. 17 W.

That portion of the  $NE\frac{1}{4}SW\frac{1}{4}$  Sec. 28, T. 5 S., R. 17 W., that lies west of New Mexico 32 right-of-way.

$SE\frac{1}{4}NE\frac{1}{4}SE\frac{1}{4}$  and  $E\frac{1}{2}SE\frac{1}{4}SE\frac{1}{4}$  Sec. 29, T. 5 S., R. 17 W.

$E\frac{1}{2}NE\frac{1}{4}NE\frac{1}{4}$  Sec. 32, T. 5 S., R. 17 W.

That portion of the  $E\frac{1}{2}SE\frac{1}{4}NE\frac{1}{4}$  Sec. 32, T. 5 S., R. 17 W., that lies north of New Mexico 12 right-of-way.

That portion of the  $N\frac{1}{2}NW\frac{1}{4}NW\frac{1}{4}$  Sec. 33, T. 5 S., R. 17 W., that lies north of New Mexico 12 right-of-way.

Romero Selections - Four parcels east of Highway 12 in T. 5 S., R. 17 W.:  $SE\frac{1}{4}SE\frac{1}{4}$  Sec. 21;  $NW\frac{1}{4}SW\frac{1}{4}$  Sec. 22;  $SE\frac{1}{4}NW\frac{1}{4}$  Sec. 22;  $SW\frac{1}{4}SE\frac{1}{4}$  Sec. 15.

EXHIBIT "A"

RESERVE LAND EXCHANGES LEGAL DESCRIPTIONS

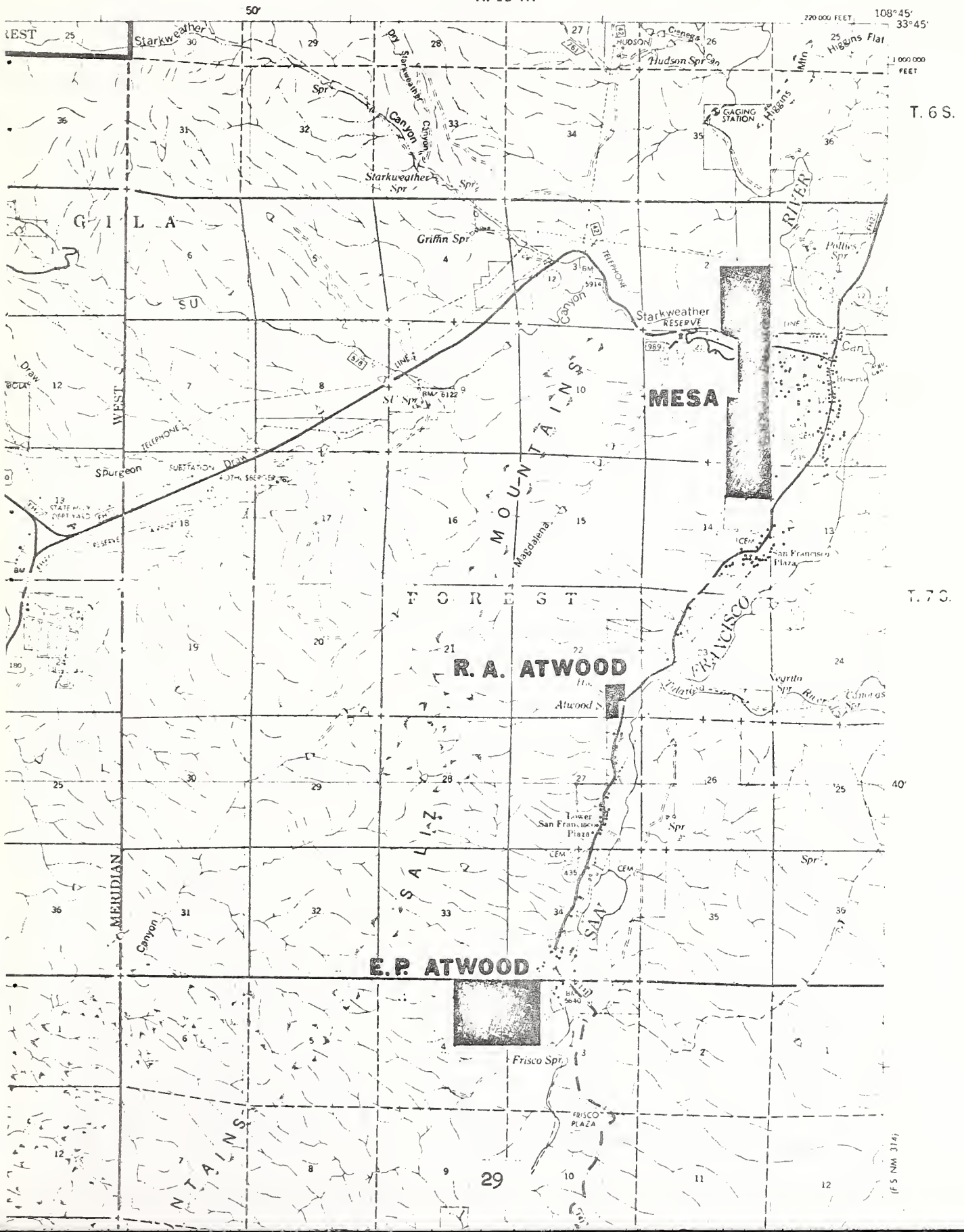
Aragon Base Lands - Five parcels south of Highway 12:  $SW\frac{1}{4}NW\frac{1}{4}$  Sec. 14,  
T. 5 S., R. 17 W.;  $SW\frac{1}{4}NE\frac{1}{4}$  Sec. 14, T. 5 S., R. 17 W.;  $SW\frac{1}{4}NE\frac{1}{4}$  Sec. 13,  
T. 5 S., R. 17 W.;  $NE\frac{1}{4}NE\frac{1}{4}$  Sec. 13, T. 5 S., R. 17 W.;  $SE\frac{1}{4}SE\frac{1}{4}$  Sec. 7,  
T. 5 S., R. 16 W.



# RESERVE LAND EXCHANGES LOCATION MAP

RESERVE 3 QUADRANGLE  
(F.S. NO. NM-313) "EXHIBIT B"  
APACHE AND GILA NATIONAL FORESTS  
15 MINUTE PLANIMETRIC SERIES

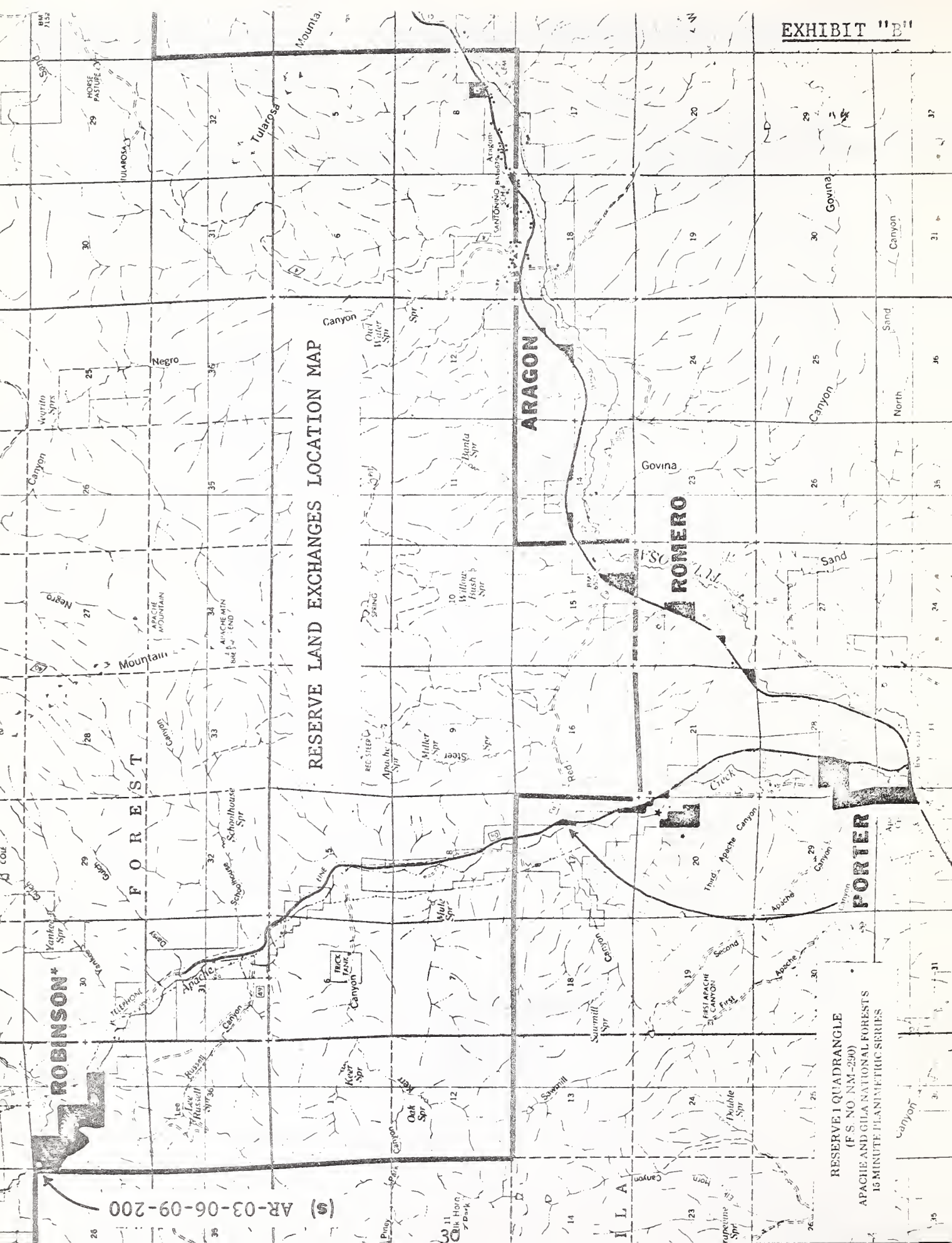
R. 19 W.



## FOREST

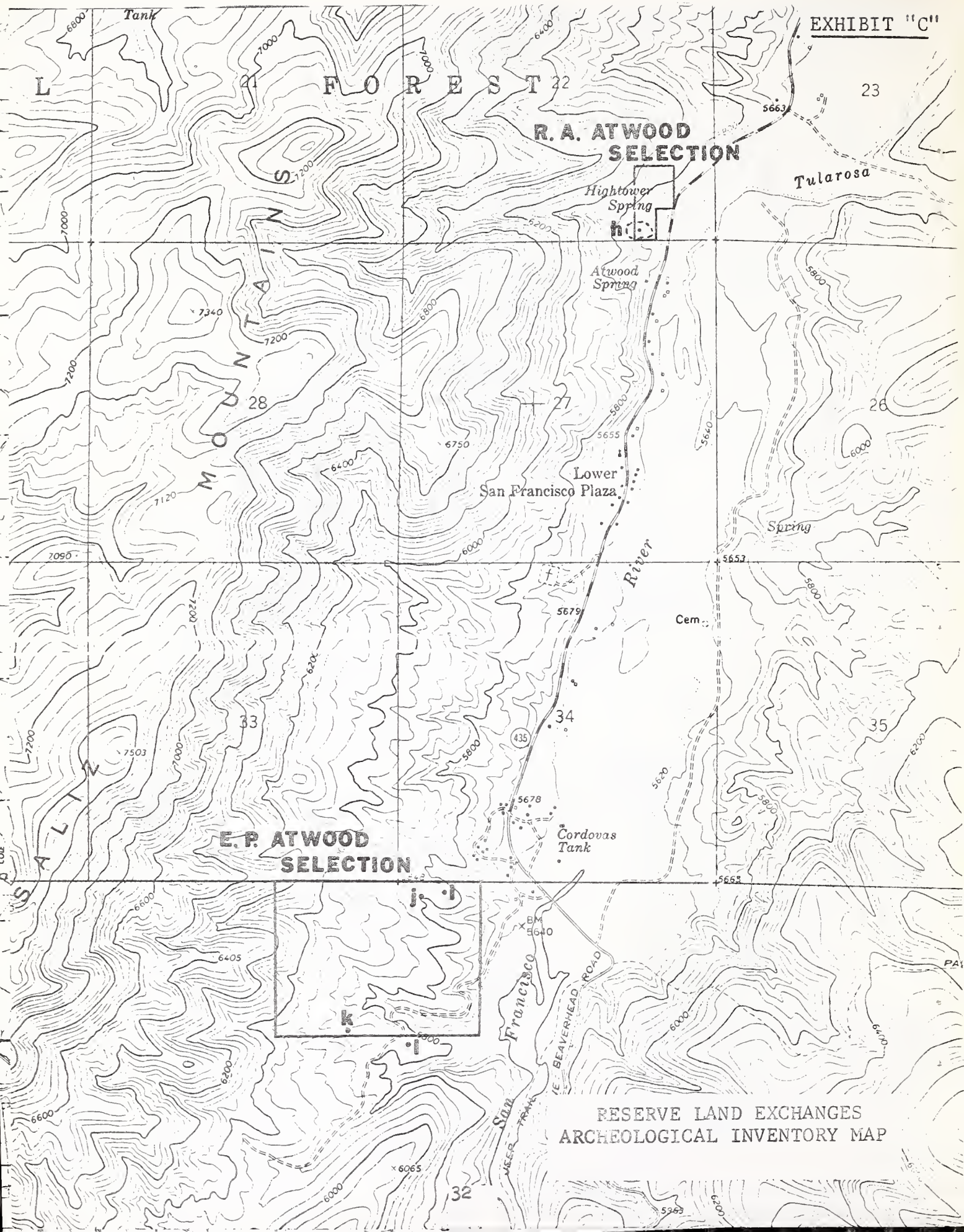
RESERVE 1 QUADRANGLE  
(F.S. NO. NM-290)  
APACHE AND GILA NATIONAL FORESTS  
15 MINUTE PLANIMETRIC SERIES

(s) AR-03-06-09-200









**R. A. ATWOOD  
SELECTION**

**E. P. ATWOOD  
SELECTION**

RESERVE LAND EXCHANGES  
ARCHEOLOGICAL INVENTORY MAP



## SQUIRREL SPRINGS CANYON QUADRANGLE

NEW MEXICO - CATRON CO.

108° 37' 30"

12' 30"

123

35'

124

